

1. A slide system for microscopy comprising:  
a slide base including at least one expansion volume formed in said slide base and said at least one expansion volume surrounding a sample area on said slide base;  
a planar cover slip; and  
a continuous adhesive layer on a surface of at least one of said slide base and said cover slip, said adhesive layer surrounding said sample area and said at least one expansion volume when said slide base and cover slip are engaged with said adhesive layer to form an assembled slide, said adhesive layer and said cover slip enclose and define a sealed sample area inhibiting migration of sample material out of said sealed sample area and inhibiting migration of contaminants into said sealed sample area.
2. A slide system according to claim 1 wherein said adhesive layer is located on said slide base.
3. A slide system according to claim 1 further including at least one active element surrounding said expansion volume and being between said adhesive layer and said expansion volume within said sealed sample area when said slide is assembled.
4. A slide system according to claim 3 including two expansion volumes in said slide base, said active element being between the outermost of said two expansion volumes and said adhesive when said slide is assembled.
5. A slide system according to claim 3 wherein said active element is an antibiotic.
6. A slide system according to claim 3 wherein said active element is an antiseptic.
7. A slide system according to claim 1 further comprising at least one test material applied to at least one of said slide base and cover slip such that said test material is within said sealed sample area.
8. A slide system according to claim 7 including at least two test materials, at least one of said test materials being applied to said slide base and at least another of said at least two test materials being applied to said cover slip such that, when said sealed sample area is formed, said test materials on said cover slip are proximal said test materials on said slide base.
9. A slide system according to claim 1 further comprising a sealed package, said slide base and said cover slip being clean and sterile within said wrapper.
10. A slide system according to claim 9 wherein said package includes a first surface within said package to which said slide base and said cover slip are releasibly adhered.
11. A slide system according to claim 10 wherein said slide base and said cover slip are adhered to said first surface in a spaced, juxtaposed arrangement such that, by folding said first surface at a point between said slide base and said cover slip said slide base and cover slip are brought into engagement to form said sealed sample area.

12. A slide system according to claim 11 wherein said point between said slide base and said cover slip comprises a fold line.
13. A slide system according to claim 11 wherein said package further includes means to receive a mechanical drive to move said package.
14. A slide system according to claim 1 wherein each of said slide base, said cover slip and said adhesive have a preselected thickness such that, when said assembled slide is formed it has a preselected overall thickness.
15. A slide system according to claim 14 wherein said preselected thickness of each of said slide base, said cover slip and said adhesive are the same.
16. A slide system according to claim 14 further comprising a recess in said slide base, said adhesive being placed in said recess.
17. A slide system according to claim 14 further comprising a spacer having first and second sides and a preselected thickness and wherein said spacer surrounds said expansion volume and said first side engages said adhesive layer and said second side includes an adhesive to engage the other of said slide base and planar cover slip, said sealed sample area being formed by said slide base, spacer, each of said adhesives and said cover slip.
18. A slide system according to claim 1 wherein said adhesive is releasible.
19. A slide system according to claim 1 further including at least one conduit extending between said sealed sample area and a surface of said slide base.
20. A slide system according to claim 19 including at least two conduits extending between said sealed sample area and a surface of said slide base.
21. A slide system according to claim 19 wherein said surface is the surface of said slide base which forms part of said sealed sample chamber.
22. A slide system according to claim 19 wherein said surface is opposite the surface of said slide base which forms part of said sealed sample chamber.
23. A slide system according to claim 1 wherein at least one of said slide base and said cover slip includes at least two electrical conductors extending between said sealed sample area and a surface on said at least one of said slide base and said cover slip outside said sealed sample area.
24. A slide system according to claim 23 wherein one of said at least two conductors is on said slide base and the other of said at least conductors is on said cover slip.
25. A slide system according to claim 23 further comprising an insulating coating on said conductors within said sealed sample.

26. A slide system according to claim 1 wherein at least one of said slide base and said cover slip includes an electrical conductor in said sealed sample area and having at least two portions of said conductor extending outside of said sealed sample area.
27. A slide system according to claim 23 further comprising a dielectric coating on said conductors within said sealed sample.
28. A slide system according to claim 23 further comprising a biologically inert coating on said conductors within said sealed sample.
29. A slide system according to claim 23 further comprising a chemically inert coating on said conductors within said sealed sample.
30. A slide system according to claim 1 further comprising at least one piezoelectric transducer in acoustic contact with said sealed sample area.
31. A slide system according to claim 1 further comprising a light source on said slide base, said light source illuminating said sealed sample area.
32. A slide system according to claim 31 wherein said light source is a light emitting diode.
33. A slide system according to claim 31 wherein said light source is a semiconductor laser.
34. A slide system according to claim 1 further comprising a light sensor on said slide base, said light sensor producing a output representative of an illumination level in said sealed sample area.
35. A slide system according to claim 34 wherein said light sensor is a photodiode.
36. A slide system according to claim 7 wherein said test material comprises a stain.
37. A slide system according to claim 36 wherein said stain is biohazardous.
38. A method of preparing a slide for microscopy, comprising the steps of:  
    (i) placing a sample material on a sample area of a slide base, said sample area surrounded by an expansion volume formed in said slide base and said expansion volume being surrounded by an adhesive material on said slide base;  
    (ii) locating a planar cover slip over said sample area to engage said adhesive material; and  
    (iii) pressing said slide cover and said slide base to form a sealed sample area inhibiting sample material from leaving said sealed sample area and inhibiting contaminants from entering said sealed sample area.
39. The method of claim 38 wherein step (iii) is performed with a preselected force.

40. The method of claim 38 where in step (iii) said pressing is performed until a pre-selected thickness of said sample area on said prepared slide is obtained.

41. A slide system for microscopy comprising:

a planar cover slip; and

a slide base including a surface having a sample area including an expansion volume which surrounds said sample area, said expansion volume being formed in said surface to receive excess sample material when a sample is placed in said sample area, said cover slip being supported by said slide base outside of said sample area when said slide is assembled.

42. A slide system according to claim 41 further comprising at least one test material applied to at least one of said slide base and cover slip such that said test material is within said sample area.

43. A slide system according to claim 44 including at least two test materials, at least one of said test materials being applied to said slide base and at least another of said at least two test materials being applied to said cover slip such that, when said cover slip is placed on said sample area, said test materials on said cover slip are proximal said test materials on said slide base.